Tar Creek Mining Waste
FACT SHEET

June 28, 2002

Ottawa County, Oklahoma

ACCEPTABLE USES OF CHAT

Chat is generally contaminated with lead, which is a hazardous substance, and when released to the environment may cause health and environmental problems. At this time, the U.S. Environmental Protection Agency (EPA) and Quapaw Tribe of Oklahoma, in coordination with Oklahoma Department of Environmental Quality (ODEQ), have identified the following uses that are not likely to present a threat to human health or the environment:

(1) Applications that **bind** (encapsulate) the chat into a **durable** product (e.g., concrete and asphalt);
(2) Applications that use the chat as a material for manufacturing a safe product where all waste byproducts are properly disposed.
(3) Applications that use the chat as sub-grade or base material for highways (concrete or asphalt) designed and constructed to sustain heavy vehicular traffic.

INTRODUCTION

The EPA (Region 6) and Quapaw Tribe of Oklahoma, in coordination with ODEQ, caution the public regarding the health hazards associated with lead-contaminated loose chat and lead-contaminated chat mixed with soil in Ottawa County, Oklahoma. Users of lead-contaminated loose chat are also warned that they may incur significant monetary liability.

BACKGROUND

Forty square miles in northern Ottawa County have been designated as the Tar Creek Superfund Site (the "Site") by EPA, in part, because of mining wastes (a.k.a. chat) that contain metal contaminants, lead, cadmium, and zinc. EPA's Baseline Human Health Risk Assessment of August 1996 for the Tar Creek Site identified lead as the only site-related chemical of concern. Lead is a hazardous substance that can cause serious neurological damage,

THIS FACT SHEET CONTAINS INFORMATION ABOUT:

Health hazards associated with mining waste, known as chat, its proper use, and your potential liability.

especially to children. Over the years, people have used the chat as a source of gravel for roads and driveways, bedding material for concrete slabs, aggregate for concrete and asphalt, and as general fill material. As explained below, some of these uses are dangerous to human health and the environment.

HEALTH RISK FROM LEAD

Exposure to lead is most dangerous to the unborn and to young children less than 72 months old, but it is also a danger to adults. The lead in the chat is highly bio-available to humans which means that it readily enters the human body. The lead is absorbed by the body when it is swallowed. When swallowed, lead enters the blood stream, and is more accessible to target organs (e.g., the brain or central nervous system). Children at play may swallow dangerous amounts of lead during normal hand-to-mouth activity. Children may also ingest dangerous quantities of lead after playing in lead-contaminated chat or from chat dust that has been tracked into the home.

The site specific cleanup level of 500 milligram of lead per kilogram of soil (mg/kg) was developed with the EPA Integrated Exposure Uptake Biokinetic (IEUBK) lead model. Using this cleanup level as a goal, the EPA has addressed residential contamination by excavating contaminated soil with concentrations of lead that exceed 500 mg/kg and replacing it with clean fill. When contaminated

soil is removed and replaced with clean fill, the resulting lead levels are usually at or below background levels. But, when loose chat with lead concentrations of 500 mg/kg is spread in clean areas without any treatment, it may actually increase the risk of exposure. In short, it is *not* safe to spread loose chat that is contaminated with lead even if the lead concentrations are less than 500 mg/kg.

By eliminating the unrestricted use of loose chat (i.e., chat that has not been bound in concrete, asphalt, or a safe product) we can effectively reduce human exposure to lead contamination.

MANAGEMENT OF CHAT

The EPA's goal is to stop unsafe uses of chat. If imbedded in concrete, asphalt, or other safe products, chat may be a useful construction material of economic benefit to Ottawa County. However, great care must be taken to ensure that the chat is used in a way that does not endanger human health or the environment. In particular, loose chat should not be used where children can be directly or indirectly exposed. Even almost invisible amounts of chat dust tracked into a home can be a danger to children.

You are also cautioned that some uses of chat that may be safe in the short term may cause a release in the long-term and pose potential risk to human health and the environment. The EPA is currently removing the soils from residential properties and high access areas that contain lead concentrations equal to or greater than 500 mg/kg. We are concerned that these properties are becoming recontaminated by those who are reintroducing chat through unsafe uses. Over time, recontamination will reduce the protectiveness of the remedy. The EPA believes that safe use of chat can only be achieved when steps are taken to prevent releases, both in the short term and long term.

LIABILITY FOR CLEANUP COSTS AND TORT LIABILITY

Lead-contaminated chat is a hazardous substance within the meaning of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA identifies four types of persons that are liable for paying the EPA to clean up hazardous substances that have been released:[1]

1. Persons who now own the place where the hazardous substance was released;
2. Persons who once owned or operated the place where the hazardous substance has been released during the time when the hazardous substance was disposed of;
3. Persons who arranged for disposal or treatment of hazardous substances at the place where the hazardous substance has been released; or
4. Persons who selected the place where the hazardous substance has been released as a disposal site and transported the hazardous substances to that place.

Generally, EPA's costs for CERCLA cleanups are thousands or millions of dollars. You may want to read the section of the CERCLA law which tells which persons are liable for the cost of cleaning up hazardous substances. CERCLA can be found in Title 42 of the United States Code (U.S.C.) in Sections 9601 through 9675. The part of CERCLA which tells about these responsible parties can be found at Section 9607 (42 U.S.C. § 9607), sometimes referred to as CERCLA Section 107. Definitions of terms used in CERCLA can be found in Section 9601.

In addition to Superfund liability, persons causing a release of hazardous substances that causes injury or damage, may be subject to liability under State tort laws. Toxic tort law suits involving chat are becoming more common. For example, a landowner or developer who develops residential housing on property contaminated with chat and contractors who perform the work may be found to be liable if harm or injury results.

EPA will not take enforcement action against certain residential landowners

Unless the residential landowner contributed to a release or a threat of a release of hazardous substances through any act or omission, EPA will not take enforcement action against an owner of single family residences of one-to-four dwelling units (including accessory land, buildings or improvements incidental to such dwellings which are exclusively for residential use) who uses the contaminated property exclusively for residential purposes. (See Policy Toward Owners of Residential Property at Superfund Sties, OSWER Directive #9834.6, July 5, 1991).

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[1]The term "release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing) any hazardous substance or pollutant or contaminant.

EPA may take enforcement action against anyone who recontaminates areas that EPA has cleaned up

The EPA may seek to recover its cleanup costs from those who place chat on property that has been cleaned up by EPA. For example, a landowner who resurfaces a driveway or parking area with lead-contaminated loose chat after EPA has removed the chat from the driveway or parking area may have to pay EPA thousands of dollars for the cleanup and disposal of that chat.

CHAT USAGE GUIDELINES

Many chat uses can lead to health and environmental problems. Even if chat is buried, it may later be brought to the surface during earthmoving activities such as gardening or utility repair, or by erosion.

Acceptable Uses of Chat

(1) Applications that **bind** (encapsulate) the chat into a **durable** product (e.g., concrete and asphalt);
(2) Applications that use the chat as a material for manufacturing a safe product where all waste byproducts are properly disposed.
(3) Applications that use the chat as sub-grade or base material for highways (concrete or asphalt) designed and constructed to sustain heavy vehicular traffic.

Chat Uses to Avoid

(1) Don't use chat as fill material in yards, playgrounds, parks, and ballfields.
(2) Don't use chat as playground sand or surface material in play areas.
(3) Don't do vegetable gardening in locations contaminated with chat.
(4) Don't use chat as surface material for vehicular traffic (e.g., roadways, alleyways, driveways, or parking lots).
(5) Don't sand icy roads with chat.
(6) Don't sandblast with sand from tailings ponds or other chat.
(7) Don't use chat as bedding material under a slab in a building that has underfloor air conditioning or heating ducts.
(8) Don't develop land for residential use (e.g., for houses or for children's play areas, such as parks or playgrounds) where visible chat is present or where the lead concentration in the soil is equal to or greater than 500 mg/kg unless the direct human contact health threat is eliminated by engineering controls (e.g., removing the contaminated soil or capping the contaminated soil with at least 18-inches of clean soil).
(9) Don't play on chat or tailings pond sand.
(10) Don't ride bicycles or motorized bikes on chat piles or dry tailings ponds.
(11) Don't drive all-terrain vehicles or other vehicles for recreation on chat piles or dry tailings ponds.

Environmental Considerations

In addition to health considerations from direct human contact, make sure your uses of chat are protective of the overall environment (*i.e.*, make sure the beneficial uses of the air, surface water, ground water or other environmental resources are not endangered.)

Precautions During Construction

General Construction Practices: Please note that even when chat is put to uses that are described above as generally acceptable, care must be used to prevent a release. It is especially difficult to use chat in construction without spreading it beyond the area where it is intended to be used. For example, there could be a situation in which chat was stockpiled prior to being mixed into concrete, but it is inadvertently spread to surrounding areas before it is added to the cement. Chat can be spread by construction traffic, wind or rainfall runoff. To prevent spreading of contamination during construction, adequate controls (e.g., dust suppression and erosion controls) must be implemented.

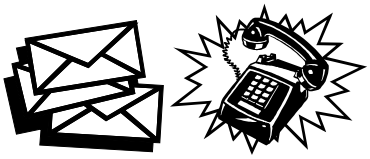
Utility Excavations: Particular care should be exercised when excavating for utilities in contaminated areas in order to avoid spreading contamination to clean areas. When stockpiling or temporarily staging excavated materials, please ensure that adequate controls (e.g., dust suppression, runoff, and erosion controls) are in place to prevent the spreading of contamination to clean areas. Excavated contaminated materials can generally be placed back into the excavations as long as a minimum clean cover is used. A cover of six inches of clean material is normally adequate in utility right-of-ways. In residential areas, at least 18 inches of clean fill is necessary. Alternatively, excavated contaminated material should be disposed of in accordance with applicable laws and regulations. Contaminated excavated material should not be left exposed at the surface after construction is complete.

The EPA, ODEQ, and Quapaw Tribe of Oklahoma plan to further evaluate beneficial uses of chat. The information will be disseminated to the public as soon as it becomes available.

We will continue to monitor chat use in the Site area; and to keep the public informed of issues that impact human health and the environment.

FOR MORE INFORMATION CONTACT

EPA Superfund Information Line: 1-800-533-3508



Mr. Rafael Casanova
Remedial Project Manager (Bilingual - Spanish/English)
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Superfund Division (6SF-AP)
Dallas, TX 75202-2733

Telephone: 214-665-7437
E-Mail: casanova.rafael@epa.gov

Mr. Mike McAteer
Remedial Project Manager
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Superfund Division (6SF-AL)
Dallas, TX 75202-2733

Telephone: 214-665-7157
E-Mail: mcateer.mike.@epa.gov

Mr. Donn Walters
Community Involvement Coordinator
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Superfund Division (6SF-PO)
Dallas, TX 75202-2733

Telephone: 214-665-6483
E-Mail: walters.donn@epa.gov

Ms. Tabitha Worley
Environmental Director
Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363

Telephone: 918-542-1853
E-Mail: quapaweco@onenet.net

Mr. Dennis Datin
Professional Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101

Telephone: 405-702-5125
E-Mail: dennis.datin@deq.state.ok.us

Inquiries from members of the news media should be directed to Mr. Dave Bary, EPA Region 6 Press Officer at 214--665-2208.

Information Repositories

The Administrative Record File for the Tar Creek Refinery site is available for public review at these locations:

Miami Public Library
200 North Main
Miami, OK 74354
918-542-3064
Hours: Mon., Wed., Thurs.
8:30 a.m. - 8:00 p.m.
Tues., Fri., Sat.
8:30 a.m. - 5:00 p.m.
Sunday 1:00 p.m. - 5:00 p.m.

U.S. EPA Region 6
1445 Ross Avenue, Suite 12D13
Dallas, TX 75202
214-665-2792

Hours: Mon. through Fri. 7:30 a.m. until 4:30 p.m.

On The Web...

Information on the Tar Creek Superfund site can also be accessed via the U.S. EPA Internet Homepage at:

U.S. EPA Headquarters:
www.epa.gov
U.S. EPA Region 6:
www.epa.gov/region6
U.S. EPA Region 6 Superfund Division:
www.epa.gov/region6/superfund